



of
BRITISH COLUMBIA

Silviculture Prescription Guidebook

February 2000

DOC
BC
F6
C
F6:S54
2000
c.3



**BRITISH
COLUMBIA**



3 3298 00240 8749

100-06348/

FOREST PRACTICES
CODE
of
BRITISH COLUMBIA

Silviculture Prescription Guidebook

February 2000

Authority

*Forest Practices Code of British Columbia Act
Operational Planning Regulation
Timber Harvesting Practices Regulation*

Canadian Cataloguing in Publication Data

Main entry under title:

Silviculture prescription guidebook

(Forest practices code)

Rev. ed.

ISBN 0-7726-4197-8

1. Forests and forestry – British Columbia – Planning. 2. Forest management – British Columbia – Planning. I. British Columbia. Ministry of Forests. II. Series: Forest practices code of British Columbia.

SD391.S54 2000 634.9'5'09711 C00-960118-X

© 2000 Province of British Columbia

For copies of this or any guidebook, contact:

Government Publications

PO Box 9452 Stn. Prov. Govt.

Victoria BC V8W 9V7

Telephone: 1-800-663-6105 (outside Victoria)

(250) 387-6409 (within Victoria)

Fax: (250) 387-1120

Internet: <http://www.publications.gov.bc.ca/>

Guidebooks are also available on the British Columbia

Ministry of Forests' home page at:

<http://www.for.gov.bc.ca/tasb/legsregs/fpc/FPCGUIDE/Guidetoc.htm>

Preface

This guidebook has been prepared to help forest resource managers plan, prescribe and implement sound forest practices that comply with the Forest Practices Code.

Guidebooks are one of the four components of the Forest Practices Code. The others are the *Forest Practices Code of British Columbia Act*, the regulations and the standards. The *Forest Practices Code of British Columbia Act* is the legislative umbrella authorizing the Code's other components. It enables the Code, establishes mandatory requirements for planning and forest practices, sets enforcement and penalty provisions, and specifies administrative arrangements. The **regulations** lay out the forest practices that apply province-wide. **Standards** may be established by the chief forester, where required, to expand on a regulation. Both regulations and standards, where required and established under the Code, must be followed.

Forest Practices Code guidebooks have been developed to support the regulations, but are not part of the legislation. The recommendations in the guidebooks are not mandatory requirements, but once a recommended practice is included in a plan, prescription or contract, it becomes legally enforceable. Guidebooks are not intended to provide a legal interpretation of the Act or regulations. In general, they describe procedures, practices and results that are consistent with the legislated requirements of the Code.

The information provided in each guidebook is to help users exercise their professional judgment in developing site-specific management strategies and prescriptions to accommodate resource management objectives. Some guidebook recommendations provide a range of options or outcomes considered acceptable under varying circumstances.

Where ranges are not specified, flexibility in the application of guidebook recommendations may be required to adequately achieve land use and resource management objectives specified in higher-level plans. A recommended practice may also be modified when an alternative could provide better results for forest resource stewardship. The examples provided in many guidebooks are not intended to be definitive and should not be interpreted as the only acceptable options.

Contents

Preface	iii
Introduction	1
The <i>Silviculture Prescription Guidebook</i> and template	1
History of silviculture prescriptions	1
General objective of the silviculture prescription.....	2
General requirements	3
General objective	3
Administration	3
<i>RPF signature and seal</i>	3
<i>Licensee signature</i>	3
<i>Government approval</i>	3
Prescription amendments.....	4
Tenure identification	5
General objective	5
Suggested information	5
Area summaries	6
General objective	6
Management objectives and consistency with other plans	8
General objective	8
Higher level plans.....	8
Conditions to accommodate forest resources	9
General objective	9
Wildlife	9
Sensitive areas.....	10
Fisheries	10
Watershed.....	10
Recreation.....	11
Biological diversity.....	11
Visuals	12
Cultural heritage.....	13
Range	13
Other resources	14

Ecological information and site characteristics	15
General objective	15
Biogeoclimatic ecosystem classification (BEC)	15
Critical site conditions.....	16
Stratification	16
<i>Site series</i>	17
<i>Standards units</i>	17
<i>Mosaic of site series</i>	17
Assessments	19
General objective	19
Terrain stability field assessments.....	19
Gully assessments	20
Riparian assessments	20
Visual impact assessments	20
Archaeological impact assessments.....	21
Forest health assessments/pest incidence surveys.....	21
Specific management measures	22
General objective	22
Riparian management	22
<i>Stream and wetland descriptions</i>	22
<i>Lake descriptions</i>	22
<i>Riparian reserve zones</i>	22
<i>Riparian and lakeshore management zones</i>	22
Gullies	24
Forest health	24
Coarse woody debris.....	25
Archaeological sites	25
Vegetation management	25
Soil conservation	26
General objective	26
Maximum proportion of the area in permanent access structures	26
Maximum soil disturbance in the net area to be reforested	27
Temporary access structures	27
<i>Bladed or excavated trails</i>	27
Proportion of total area occupied by permanent access structures	29

Silvicultural system	30
General objective	30
General requirements.....	30
Specific requirements.....	30
<i>Post-harvest stand descriptions</i>	30
<i>Group selection</i>	30
<i>Single tree selection</i>	30
<i>Commercial thinnings and other intermediate cuttings</i>	31
Stocking requirements	34
General objective	34
Stocking requirements for clearcutting, patch cutting, group selection, group shelterwood, group seed tree, retention, and clearcutting with group reserves	34
<i>Preferred and acceptable species</i>	34
<i>Minimum allowable horizontal distance</i>	34
<i>Target stocking standard (TSS)</i>	35
<i>Minimum stocking standard of preferred and acceptable species (MSSpa)</i>	35
<i>Minimum stocking standard of preferred species (MSSp)</i>	35
<i>Regeneration date</i>	35
<i>Free growing assessment period</i>	35
<i>Maximum density</i>	36
<i>Post-spacing density range</i>	36
<i>Minimum height</i>	36
<i>Crop tree to brush ratio</i>	36
<i>Minimum pruning height</i>	36
<i>Other survey criteria</i>	37
Stocking requirements for other even-aged partial cutting systems.....	37
Stocking requirements for single tree selection	37
Stocking requirements for intermediate cuts	38
Stocking requirements for retention systems.....	39
Stocking requirements for shelterwood systems	39
Stocking requirements for advanced regeneration	39
Stocking requirements for riparian management areas	39
Stocking standards for complex site units	40
Mapping requirements	42
General objective	42
General mapping requirements	42
Map content	42
<i>Administrative and area information</i>	42
<i>Resource and ecological information</i>	43

Appendices

1. Silviculture prescription template and legislative and regulatory references	45
2. Fields in the silviculture prescription template which are entered and tracked on the Ministry of Forests information system	51

Figures

1. Tenure section example	5
2. Area summary example	7
3. Example of management objectives	8
4. Wildlife example	9
5. Sensitive areas example	10
6. Fisheries example	10
7. Watershed example	11
8. Recreation example	11
9. Biological diversity example	11
10. Visual resource management example, consistent with established VQOs	12
11. Visual resource management example, where VQOs have not been established	12
12. Cultural heritage example	13
13. Range example	13
14. Other resources example	14
15. Example of how ecological information and critical site conditions might be stated in a prescription	18
16. Example of measures for riparian management	23
17. Example of measures for gully management	24
18. Example of measures for the management of forest health	24
19. Example of measures for the management of coarse woody debris	25
20. Example of measures for the management of archaeological sites	25
21. Example of measures for vegetation management	25
22. Example of soil conservation section	28
23. Example silvicultural system – clearcut with reserves	31
24. Example silvicultural system – uniform seed tree	32
25. Example silvicultural system – group selection	32
26. Example silvicultural system – strip shelterwood	33
27. Example silvicultural system – single tree selection	33
28. Example of stocking standards for clearcuts or patch cuts	40
29. Example of stocking requirements for single tree selection silvicultural systems	41



Introduction

The *Silviculture Prescription Guidebook* and template

This document has been written to help forest practitioners prepare silviculture prescriptions that comply with the Forest Practices Code. It is limited to the preparation and administration of silviculture prescriptions required under the *Forest Practices Code Act* and the *Operational Planning Regulation*.

Examples taken from the prescription template have been provided for each section of the guidebook for clarification. The examples should not be considered to be required in terms of either content or format, and examples are generally independent of one another, in order to illustrate a wide range of issues.

The format of this guidebook coincides with the silviculture prescription template (dated March 2000), which is designed to provide the essential information for a prescription. Legislative and regulatory silviculture prescription content requirements will be met by completing the information in this template; however, use of this template is not mandatory. Other formats may be used, provided that they comply with the *Act* and regulations.

It is also important to note that additional information, beyond that required in the template, may be necessary as a matter of due diligence and to ensure that the prescription is successful. Sound professional judgement and discretion are necessary to ensure that a prescription is effective. Local knowledge, procedures, and issues will dictate the level of detail required in each section.

The silviculture prescription template presented in this guidebook is used as the basis for SilvRx, a computer program for silviculture prescription preparation available for Ministry of Forests use.

History of silviculture prescriptions

Silviculture prescriptions were first conceived in the early 1980s as a method for documenting planned silviculture activities prior to harvesting. Implementation was initially through ministry policy, which resulted in a wide variation in application across the province. The requirement for silviculture prescriptions was legislated in the fall of 1987 (*Bill 70 – Forest Amendment Act No. 2, 1987*), and further regulated in the spring of 1988 (*Silviculture Regulation*). The requirement for silviculture prescriptions was further refined in July 1993 (*Bill 56 – Forest Amendment Act No. 2, 1993*) when the legislation was amended to include provisions for exemptions from some or all of the obligations of basic silviculture under specific circumstances. Further restrictions on the conditions

under which these exemptions could be granted came into effect in February 1994 (*Silviculture Practices Regulation*). Key features of this *Regulation* included additional content requirements for silviculture prescriptions and soil conservation measures, and provision for administrative penalties for contravention of specific sections of the *Regulation*.

In 1998, through the *Forest Statutes Amendment Act (Bill 47)*, the legislation was amended to streamline the preparation and implementation of operational plans. Content requirements for silviculture prescriptions were substantially reduced, eliminating details on how forest practices were to be conducted. Further streamlining regulation changes occurred in October and December of 1998. The *Silviculture Prescription Guidebook* emphasizes specific management objectives and standards that must be achieved rather than methods for achieving them.

General objective of the silviculture prescription

- To describe management objectives, measures, and conditions that must be met to accommodate forest resources, resource features and known non-timber resources, and to ensure that the inherent productivity of the site is maintained and that a free growing stand is produced.

A silviculture prescription (SP) is an operational plan that describes forest management objectives for an area:

- for which harvesting is proposed, or in which unauthorized harvesting has occurred
- in which timber has been damaged or destroyed by natural causes
- in which a silviculture treatment is proposed for an area in which timber was harvested, damaged, or destroyed before October 1, 1987 (backlog prescription).

If there are no trees present on the area under the prescription because of (for example) trespass, damaged or destroyed timber, or backlog areas, the prescription requirements are reduced. In these cases, the prescription is not required to state the silvicultural system, slope instability indicators, unfavourable subsoils, risk of sediment delivery into streams, details on access structures, and site conditions to accommodate forest resources. Further exemptions are permitted where there are no trees to harvest and where a mechanical site preparation will not be conducted. These exemptions include the requirements to state soil degradation hazards, critical site conditions, and soil disturbance limits.

General requirements

General objective

- To ensure that submission and approval requirements are adequate.

In order for a prescription to be approved or given effect by a district manager it must be consistent, at the date of its submission, with a forest development plan that is in effect, or with a higher level plan in the absence of a forest development plan. It is limited to the content requirements of the *Forest Practices Code Act* and *Regulations*. Advice regarding administration of silviculture prescriptions is contained in the document, *Administration of Forest Operational Plans for Silviculture Prescriptions*. Silviculture prescriptions submitted after June 15, 1998 must comply with the regulations, as deposited on April 2, 1998.

Administration

RPF signature and seal

A silviculture prescription must be signed, sealed, and dated by a registered professional forester who is responsible for its content and accuracy.

Licensee signature

Where the holder of a licence agreement is required to complete a silviculture prescription as an obligation of that licence, the prescription must be signed by the holder of the licence or a person who has signing authority. Where the district manager has completed a prescription for a timber sale licence issued under the Small Business Forest Enterprise Program, the licensee must comply with the silviculture prescription conditions as part of the licence agreement.

Government approval

The district manager may give approval or effect to the silviculture prescription, or amendment, only when he/she is satisfied that the measures prescribed are in accordance with the legislation, regulations, and standards, and are adequate to manage and conserve the forest resources of the area to which the prescription applies. The district manager is required to approve a silviculture prescription if the above conditions are met, and may not sign approval if there are any additional requirements outstanding. District managers may require additional information in order to satisfy themselves that the measures being prescribed are adequate to meet management objectives.

Prescription amendments

Amendments to prescriptions may be submitted voluntarily at any time, or may be required by the district manager under specific conditions.

A district manager may request the holder of a prescription approved before May 15, 1996 to prepare and obtain the district manager's approval of an amendment to that prescription respecting any matters identified by the district manager, if the holder is requesting that the Crown assume the prescription under the auspices of section 71 of the *Act*.

Amendments to prescriptions may be submitted on a silviculture prescription amendment form if the clarity of the original prescription will not be adversely affected, otherwise a new prescription must be submitted to replace the original.

Tenure identification

General objective

- To provide pertinent administrative references and information.

The silviculture prescription should include sufficient administrative information to provide a link to other documents and information systems, such as the Integrated Silviculture Information System (ISIS). Major Licensee Silviculture Information System (MLSIS) forms are submitted and incorporated into ISIS. Tenure information should be the same for the silviculture prescription, advertising and referrals, silviculture information systems, surveys, assessments, and reports.

Suggested information

The prescription should include sufficient information to clearly identify the area. The following information is suggested, as a minimum:

- licensee(s) (and division, if applicable)
- licence number and type
- cutting permit and block number
- location
- timber mark
- opening number (if available) or mapsheet number.

A. TENURE IDENTIFICATION

LICENCE NO.: FL A12345	CUTTING PERMIT: 111	BLOCK NO: 1	LICENSEE NAME: West Copper Timber Ltd.
TIMBER MARK: EA4111		OPENING NUMBER: 93L077 - 01	LOCATION: Timber Creek

Figure 1. Tenure section example.

Area summaries

General objective

- To provide values for unit areas and a description of the area under the prescription.

The total area under the prescription includes: productive area, reserve patches of timber or immature trees, natural non-productive area (rock, swamp, water, brush), created non-productive area (planned and existing roads, landings, gravel pits), individual areas of non-commercial brush greater than 4 ha, and any other area, whether or not it is capable of growing trees.

Note that planned or existing roads include those roads previously constructed, those that will be constructed under a road permit or a cutting permit authorized under the *Act*, and all non-status roads. It does not include roads with tenures granted by other acts, such as public highways, because these are governed by separate legal entities. However, these roads may be shown for information purposes.

The net area to be reforested (NAR) must be described within the prescription document, and illustrated on the prescription map. Reserves with a harvest entry (modification) are to be included in the NAR and should be listed as a separate standards unit. Pruning of trees for windthrow protection or felling of individual hazard trees (as long as the log is left) are not harvest entries, so a standards unit is not required. The *Forest Practices Code of British Columbia Act* defines NAR as that portion of the area under a silviculture prescription that does not include:

- an area occupied by permanent access structures
- an area of rock or wetland, or other area that, in its natural state, is incapable of growing a stand of trees that meets the stocking requirements specified in the prescription
- a contiguous area of more than 4 ha that the district manager determines is composed of non-commercial forest cover
- an area indicated on the silviculture prescription as a reserve area where the establishment of a free growing stand is not required.

AREA OF NO PLANNED REFORESTATION (ha) (NPR)																
PERMANENT ACCESS	ROCK	WATER	SWAMP	OTHER NP	NC >4 ha	RESERVES WITH NO MODIFICATIONS	IMMATURE	OTHER (specify)	TOTAL NPR AREA							
2.3	0.0	1.6	0.0	0.0	0.0	2.5	0.0	0.0	6.4							
NET AREA TO BE REFORESTED INCLUDING RESERVES WITH MODIFICATIONS (ha):																
SU	SU AREA DESCRIPTION							NET AREA TO BE REFORESTED:								
A	moderately steep north-facing slope (30–50%).							28.1								
B	mesic with undulating terrain with a single stream running through the eastern half.							15.0								
TOTAL NET AREA TO BE REFORESTED:								43.1								
TOTAL AREA UNDER PRESCRIPTION:								49.5								

Figure 2. Area summary example.

Management objectives and consistency with other plans

General objective

- To ensure consistency with the objectives and strategies presented in forest development plans, higher level plans, resource management zones, or landscape units.

The silviculture prescription must include the long-term management objectives for the area under the prescription, which are set out in:

- a forest development plan, or
- in the absence of a forest development plan, any higher level plan, or
- in the absence of objectives set out in a forest development plan or a higher level plan, in accordance with the regulations, if any.

Higher level plans

Higher level plans provide objectives for resource management and establish the broader, strategic context for operational plans. Higher level plans are the primary source of objectives that determine the forest practices and site conditions described in operational plans, such as silviculture prescriptions.

C.1. MANAGEMENT OBJECTIVES

MANAGEMENT OBJECTIVES STATED IN FDP OR HLP(S)

Fibre Production: contribute to a sustainable supply of sawlogs and pulpwood.

Wildlife: conserve the surrounding high-value grizzly bear habitat.

Water Quality and Fish Habitat: maintain water quality and aquatic ecosystems by minimizing erosion and sedimentation.

Visual Quality*: partial retention when viewed from viewpoint 3 and from the McDonnell Forest Service Road, kilometres 13–23 (refer to attached visual impact assessment).

Access: restrict motorized access into this block from the commencement of road construction to completion of crop establishment. The period of total motorized access shall not exceed 10 years.

- Where VCOs have not been established, a district manager may provide direction to licensees as to what level of management would be appropriate to adequately manage and conserve the known visual values. Record this management recommendation in section C.1 of the SP form. An example of such a management recommendation is a Recommended Visual Quality Class (RVQC).

Note: An option to summarizing the pertinent HLP management objectives in the SP is to state that the SP is consistent with objectives of a particular zone of a named HLP. Where an SP references a named higher level plan, without transfer of pertinent details, monitoring and auditing will require locating the original plan that has been referenced. As a result, future monitoring/auditing will require more work.

Figure 3. Example of management objectives.

Conditions to accommodate forest resources

General objective

- To ensure that forest resource objectives are appropriately balanced with harvesting or post-harvest treatments.

The silviculture prescription must describe the site conditions, if any, that must exist after a harvest or site treatment to accommodate forest resources identified in the forest development plan or, in the absence of a forest development plan, in any higher level plan that applies to the area. Any additional site conditions that must exist to accommodate known non-timber forest resources, on or adjacent to the area under the prescription, must also be described.

Examples of appropriate descriptions are provided below for key forest resources.

Wildlife

The silviculture prescription must describe the site conditions to be met to accommodate wildlife resources.

WILDLIFE

The Copper River Landscape Unit Plan and the East Copper Timber Co. Forest Development Plan identify critical grizzly bear habitat adjacent to this block. Grizzly bears are classified as a Blue List species in this area.

An eagle nesting site was found immediately adjacent to the original block boundary (refer to map).

Prescribed site conditions:

The block boundary was adjusted by placing a 50 m wide reserve strip around eagle nests.

No development activities are to occur within 200 m of eagle nests between February 1 and August 1, as per MoELP comments.

The complex of wetlands and meadows on the northern boundary of this block will be protected by maintaining a 50 m buffer of mature forest cover next to them. Standards units A and B will be harvested using a group selection system to help retain security cover. Maximum opening size will be 1.0 ha and a minimum of 60% of existing basal area will be retained in a range of diameter classes (refer to stocking requirements). Subhygric sites in unit B will be planted at reduced levels (target 600 sph) with a reduced inter-tree spacing of 1.0 m. This will encourage a clumped distribution of trees and better herb and forb production for bear forage.

Figure 4. Wildlife example.

Sensitive areas

Where a sensitive area has been established under the auspices of the *Act*, the silviculture prescription pertaining to the area must describe the required site conditions to accommodate resources in the sensitive area.

SENSITIVE AREAS

Mud Lake, 200 m north of the block, has been designated as a sensitive area for the white pelican. Pelican habitat is to be conserved in accordance with the sensitive area objectives.

Prescribed site conditions:

The block boundary is located to ensure that a minimum 200 m unlogged buffer is maintained along the lake. Harvesting operations will not be permitted during the summer months when pelicans are present.

Figure 5. Sensitive areas example.

Fisheries

Site conditions, if any, that must exist to accommodate fisheries resources, in or downstream of the prescription area, must be described.

FISHERIES

Based on a fish inventory, both creeks within this block are classified as S6 but flow directly into Fish Creek, which is an S3 classification, and 200 m downstream of the block boundary.

Prescribed site conditions:

No riparian reserve zone is required. A 20 m management zone will be established. All deciduous trees will be retained in this riparian management zone and no machine traffic will be permitted during harvesting or site preparation.

Figure 6. Fisheries example.

Watershed

The prescription must accommodate water quality requirements where there are water rights or where a community watershed exists for the area under the prescription. The stand conditions required to accommodate watersheds must be stated in the prescription. Refer also to the section of this guidebook regarding riparian management strategies.

WATERSHED

This block falls within the Tenas community watershed. Tenas Creek (2.0–4.0 m wide) borders the southwest boundary of the block. The stream has a riparian classification of S3. A fish inventory did not indicate the presence of fish.

Prescribed site conditions:

A 40 m riparian management area will be established along Tenas Creek consisting of a 20 m reserve zone (RZ) and a 20 m management zone (MZ).

Within the RZ, machine traffic will be restricted to designated crossings indicated on the prescription map. No felling of trees other than danger trees will be permitted within the RZ.

Within the MZ, approximately 20% of the dominant trees will be removed to create a feathered effect between the clearcut and the reserve zone. Trees will be felled away from the RZ. All deciduous species within the MZ will be reserved from felling, except on designated trails/roads.

Figure 7. Watershed example.

Recreation

The forest development plan and any other higher level plans should be reviewed to determine if there are any areas with known recreation resources in or adjacent to the prescription. The silviculture prescription must describe the conditions to be met to accommodate the recreation resources.

RECREATION

A heritage trail, which is identified in the forest development plan, is located near the northwest corner of the block.

Prescribed site conditions:

The integrity of the trail is to be maintained, and any unavoidable damage to the trail will be repaired prior to the completion of harvest.

Figure 8. Recreation example.

Biological diversity

The silviculture prescription must describe the site conditions to be met to accommodate any known biological diversity resources.

BIOLOGICAL DIVERSITY

Prescribed site conditions:

Three wildlife tree patches (0.5 ha, 1.2 ha, and 1.9 ha) have been marked in the field for retention as indicated on the attached map. In addition, approximately 12 m³/ha of uniform leave trees (Fd,Cw₂) have also been marked for retention in SU 2.

Figure 9. Biological diversity example.

Visuals

If a scenic area has been identified and made known, and visual quality objectives (VQOs) have been established by the district manager, or through a higher level plan, a visual impact assessment (VIA) will be required (refer to the assessments section of this guidebook). The VIA must demonstrate that timber harvesting operations are consistent with established VQOs. The prescription must also describe the site conditions that must exist to accommodate the VQOs.

For a known scenic area where no VQOs have been established, sound professional judgement is required to ensure that visual landscape design principles have been employed to ensure that the prescription adequately manages and conserves the visual values of the area.

VISUALS

This block is in full view of the Fish Lake recreation site, 2 km to the west.

Prescribed site conditions:

The block size and configuration were amended to ensure that the VQO of partial retention (PR) is achieved, based on the results of the VIA and following a joint MOF-Licensee field inspection. Three wildlife tree patches have been strategically located within the block to reduce the apparent size of the opening visually. The remaining visible portion of the block will create a 5% non-visually greened-up disturbance on the viewshed. This is within the acceptable limits for a partial-retention objective. Roads and skid trails will be grass-seeded immediately after harvesting to reduce the visual impact.

Figure 10. Visual resource management example, consistent with established VQOs.

VISUALS

This block is identified in the forest development plan as being within a known scenic area. Measures have been specified in the FDP to protect and adequately manage and conserve visual resources in accordance with section 10(1)(c)(ii) of the *Forest Practices Code of British Columbia Act* and OPR s. 41(1)(b).

Prescribed site conditions:

Measures specified to protect visual resources include:

Block shape amended in response to lines of force analysis and visual simulations done from viewpoints 2 and 3. Visible size of block reduced by leaving dispersed clumps of residual trees. Edges of block feathered to reduce abrupt edge effect.

Figure 11. Visual resource management example, where VQOs have not been established.

Cultural heritage

If there are heritage resources, such as archaeological sites, culturally modified trees (CMTs), trails, or other examples of historical use in the area, any specific site conditions required to accommodate these resources must be described in the prescription.

An archaeological impact assessment may be required (refer to the assessments section of this guidebook), which may necessitate specific site conditions as well.

CULTURAL HERITAGE	
Prescribed site conditions:	
The block boundary is situated to avoid culturally modified trees for the purposes of preservation.	

Figure 12. Cultural heritage example.

Range

The prescription must ensure that prescribed site conditions accommodate any range resources in the area in a manner consistent with range use plans and forest development plans, or, in their absence, with any applicable higher level plan objectives for the area.

The prescribed site conditions may include:

- the timing and duration of use by livestock (as described in an applicable range use plan)
- considerations for retention and replacement of natural livestock barriers, if any
- grass seeding and range improvements, if any
- other conditions as required.

RANGE	
Prescribed site conditions (include any potential silviculture impacts):	
This block falls within an authorized grazing agreement under the <i>Range Act</i> . There are no planned improvements, but the applicable range use plan specifies that the range agreement holder will build a fence to replace the natural vegetation barrier removed during harvesting, and will install a cattle guard on the main access road to the block. Funding for the fence and cattleguard will be provided by the forest licensee. Harvesting is scheduled in winter and will not conflict with cattle grazing, as outlined in the approved grazing schedule. Livestock grazing will not be permitted on the block for 2 years following harvesting to allow crop trees to become established. Alternative authorized forage and an authorized non-use* will be considered for this 2-year period.	

- Authorized non-use is forage that is not required to be used by the agreement holder in any particular year. Normally this amount of forage is available for others while not used. It is required to be used by the agreement holder after 2–4 years.

Figure 13. Range example.

Other resources

Where other resources are identified (in the forest development plan or a higher-level plan), the prescription must describe any required site conditions to accommodate them. These may include tourism, hunting, trapping, and any other forest resource.

OTHER RESOURCES
<ul style="list-style-type: none">• Guide/Outfitter: guiding licence 123G000• Trapper: trapline 123T000• Interest Group: Friends of the Grizzly
Prescribed site conditions:
Specific coarse woody debris requirements for fur-bearer habitat are prescribed (refer to section E.4), and logging will not be conducted during hunting seasons.

Figure 14. Other resources example.

Ecological information and site characteristics

General objective

- To record the ecological classification of the site and describe site conditions that limit operations.

The silviculture prescription must describe the biogeoclimatic ecosystem classification and any critical site conditions that would affect the timing of operations, and how they affect this timing. Any additional information requirements may be useful for making and supporting decisions, but need not be included or attached to the document, unless specifically requested by the district manager.

Biogeoclimatic ecosystem classification (BEC)

The silviculture prescription must contain the following ecological information:

- biogeoclimatic zone(s), subzone(s), variant(s), and phase(s), where applicable
- site series and (where applicable) phase(s).

Ecological classification and interpretation guidance is provided in the following publications:

Cariboo Forest Region

Steen, O.A. and R.A. Coupé. 1997. A field guide to forest site identification and interpretation for the Cariboo Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 39.

Kamloops Forest Region

Lloyd, D., K. Angrove, G. Hope, and C. Thompson. 1990. A guide to site identification and interpretation for the Kamloops Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 23.

Nelson Forest Region

Braumandl, T.F. and M.P. Curran. 1992. A field guide for site identification and interpretation for the Nelson Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 20.

Prince George Forest Region

MacKinnon, A., C. DeLong, and D. Meidinger. 1990. A field guide for identification and interpretation of ecosystems in the northwest portion of the Prince George Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 21.

DeLong, C., A. MacKinnon, and L. Jang. 1990. A field guide for identification and interpretation of ecosystems of the northeast portion of the Prince George Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 22.

Jull, M.J., C. DeLong, and D. Tanner. 1993. A field guide for site identification and interpretation for the southern portion of the Prince George Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 24.

DeLong, C., D. Tanner, and M.J. Jull 1994. A field guide for site identification and interpretation for the Northern Rockies and portions of the Prince George Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 29.

Prince Rupert Forest Region

Banner, A., W. MacKenzie, S. Haeussler, S. Thomson, J. Pojar, and R. Trowbridge. 1993. A field guide to site identification for the Prince Rupert Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 26.

Vancouver Forest Region

Green, R.N. and K. Klinka. 1994. Site identification and interpretation for the Vancouver Forest Region. B.C. Min. For., Victoria, B.C. Land Manage. Handb. 28.

Critical site conditions

The silviculture prescription must state any critical site conditions that affect the timing of operations, and describe how operations are affected. Only those site conditions directly related to a prescribed action, or limitations to an action, must be stated. Such conditions may be related to soil properties, drainage, periodic flooding, wildlife (e.g., nesting periods), recreational activities (e.g., hunting or fishing seasons), or any other site conditions critical to the success of the prescription.

Stratification

Two levels of stratification are required for silviculture prescriptions:

1. BEC, generally stratified to site series
2. silvicultural system, soil conservation, and stocking standards.

Site series

The BEC site series must be indicated on the silviculture prescription map and described in the silviculture prescription document. Minimum polygon size on the map will depend on the relevance to management objectives for the site. One hectare is generally accepted as a minimum size.

BEC site series are important, since they influence many management decisions, including the equipment to be used, treatment regimes, stocking standards, and wildlife habitat management requirements.

Standards units

An area in which silvicultural systems, stocking standards, and soil conservation standards are uniformly applied is known as a standards unit. Standards units are areas that will be managed to a specified silvicultural system and to soil conservation and stocking standards. Stand management objectives and BEC site series are significant factors leading to setting standards units.

Other factors may apply under site-specific circumstances. Although BEC site series influence stocking and soil conservation standards, there is not necessarily a direct overlap between BEC site series and standards units. For instance, some stocking standards apply to many BEC site series. In other cases, forest health factors may require the application of different stocking standards within one BEC site series.

Mosaic of site series

Some areas will have more than one distinctly different site series occurring in a mosaic in which individual site series are either too small or too intricately dispersed to map separately. These areas should be mapped as a complex, with a label indicating the relative proportion of each site series.

For example, an area with 80% mesic sites, 10% dry sites, and 10% wet sites might be labelled 01,02,06. If describing the mosaic as one standards unit, the predominant site series may be used as the ecology label.

D.1 ECOLOGICAL INFORMATION AND CRITICAL SITE CONDITIONS							
SU	BIOGEOCLIMATIC						
	STRATUM	ZONE	SUBZONE	VARIANT	PHASE	SITE SERIES	PHASE
A	N/A	SBS	mk	1	a	08	N/A
B	B-1	SBS	mk	1	a	06	N/A
	B-2	SBS	mk	1	a	01	N/A
SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING						
A	Heavy equipment is not to be operated on site during periods of high moisture content. Logs will be skidded to roadside during winter. Piling of roadside debris with bulldozers is restricted to dry periods when rutting will be avoided.						
B	Fine-textured soils (CL, SiCL) with low coarse fragment content and a thin (0–5cm) humus horizon (hemimor) are present. Machine traffic during seasons other than winter will result in excessive compaction and site degradation. Conduct logging when soils are frozen or when the snowpack exceeds 60 cm.						
	Note that SU B is divided into strata because there is a 3.0 ha uniform, mesic area (refer to map), which requires the same treatments and standards as the remainder of the SU.						

Figure 15. Example of how ecological information and critical site conditions might be stated in a prescription.

Assessments

General objective

- To provide additional information for decision making and for the preparation and approval of the prescription.

The assessments described below must be conducted and made available, if specifically required by the district manager. Assessments are not legally a part of a silviculture prescription, but must be completed (where necessary) before a district manager can approve a prescription.

A silviculture prescription must be consistent with the results or recommendations of any required assessments, and must provide a statement to this effect. The prescription must also contain a statement indicating that the procedures required by the *Operational Planning Regulation* were followed for any assessment conducted.

No assessments are required if an amendment to a forest development plan relates to an emergency harvesting operation, unless the district manager requests in writing that a terrain stability field assessment be conducted.

It is important to note that, for areas requiring joint approval by the district manager and the designated environment official, the obligations for assessments for all or part of a forest development plan are different from those for silviculture prescriptions. For an amendment to an FDP in an area with moderate likelihood of landslides (necessary for emergency situations or expedited major salvage) a terrain stability field assessment is not required. However, an SP for within a community watershed applicable to the FDP amendment area will require a terrain stability field assessment.

Terrain stability field assessments

Terrain stability field assessments must be completed if:

- the cutblock is located in a community watershed or other joint approval area and no terrain stability assessment was completed for the FDP
- the cutblock is not located in a community watershed or other joint approval area and has been identified in the forest development plan as having a moderate likelihood of landslides or potentially unstable terrain
- the cutblock has been identified by the district manager as requiring a terrain stability field assessment

- indicators of potential slope instability in the cutblock are identified while carrying out the silviculture prescription field work.

However, a terrain stability field assessment is not required if the cutblock is shown on a forest development plan as being located in an area with a moderate likelihood of landslides, and

1. all the following conditions are met:
 - the area is located in the Interior
 - the proposed timber harvesting method is cable or aerial
 - no excavated or bladed trail will be constructedor
2. a terrain stability field assessment was carried out for the purposes of a road layout and design, and the assessment included the area to be harvested.

Gully assessments

A gully assessment must be conducted for cutblocks located on the Coast if harvesting is proposed within the gully. Assessments must be carried out in accordance with the Ministry of Forests publication *Gully Assessment Procedure Guidebook*, as amended.

“Coast” refers to that geographic area contained in:

1. the Vancouver Forest Region
2. the following portions of the Prince Rupert Forest Region:
 - the North Coast Forest District
 - the Kalum Forest District.

Riparian assessments

A riparian assessment must be conducted to determine the riparian class of streams, wetlands, and lakes, and to identify fish streams in community watersheds that are in or adjacent to the area under the prescription. See the *Riparian Management Area Guidebook*.

Visual impact assessments

If the cutblock is in a known scenic area with an established visual quality objective (VQO), a visual impact assessment must be conducted that demonstrates that the timber harvesting operations are consistent with the

established VQO for the area. Known scenic area means any visually sensitive area or scenic landscapes identified through a visual landscape inventory or planning process carried out or approved by the district manager and made known by a district manager 4 months before an operational plan is submitted for approval.

For a minor salvage operation or an expedited major salvage operation, a visual impact assessment is not required unless requested by the district manager in writing.

Archaeological impact assessments

An archaeological impact assessment must be conducted that meets the requirements of the minister responsible for the *Heritage Conservation Act*, if the district manager is satisfied that the assessment is necessary to adequately manage and conserve archaeological sites in the area.

Forest health assessments/pest incidence surveys

A pest incidence survey is required, if requested by the district manager, to determine the nature and extent of forest health factors within the cutblock.

Specific management measures

General objective

- To ensure that operations are conducted in a manner that accommodates environmental and cultural concerns.

Management practices must be stated to provide direction for forest practices where there are special concerns. Measures can be described by standards unit where required.

Riparian management

Stream and wetland descriptions

The silviculture prescription (SP) must describe the riparian class, riparian reserve zone, and riparian management zone for each stream and wetland under the prescription. An SP map must also be provided that illustrates all streams and wetlands in or adjacent to the area, as well as their riparian class.

Lake descriptions

The silviculture prescription must provide the known lake classification for any lake in or adjacent to the prescription, if applicable. A riparian reserve zone and riparian management zone must also be described in the prescription.

Riparian reserve zones

A description of the purpose and extent of any proposed removal or modification of trees in a riparian reserve zone, and any related activities to be undertaken in the zone, must be provided.

Riparian and lakeshore management zones

A description of the residual basal area or stems per hectare must be included where harvesting is planned in a riparian or lakeshore management zone.

Where harvesting is proposed within a riparian or lakeshore area, the prescription must also include the strategies with respect to:

- the protection of stream banks, if there is no riparian reserve zone
- maintaining shade over known temperature-sensitive streams
- debris management, if felling and yarding across streams is proposed.

In addition, when falling or yarding across streams is proposed, this fact must be stated in the prescription along with the strategies for debris management.

The *Riparian Management Area Guidebook* provides guidance on determining riparian classifications, establishing riparian reserve and management zones and developing prescriptions for riparian management areas.

E.1 RIPARIAN MANAGEMENT				
RIPARIAN RESERVE ZONE				
RIPARIAN / LAKE I.D.	RIPARIAN / LAKE CLASS	HARVESTING Y/N	SU XREF	DESCRIPTION OF THE PURPOSE AND EXTENT OF REMOVAL OR MODIFICATION OF TREES AND ANY RELATED FOREST PRACTICES IN RIPARIAN RESERVE ZONE(S)
Stream 1	S3	N		A 20 m no-harvest riparian reserve will be maintained along this creek. Machinery will not be permitted to operate within this reserve except to directionally fall dangerous trees away from the creek. No equipment will be permitted within 5 m of stream banks.
RIPARIAN MANAGEMENT ZONE				
RIPARIAN / LAKE I.D.	RIPARIAN / LAKE CLASS	HARVESTING Y/N	SU XREF	MEASURES FOR RIPARIAN OR LAKESHORE MANAGEMENT AREAS INCLUDING: PROTECTING STREAM BANKS (if there is no RRZ), MAINTAINING SHADE, AND DEBRIS MANAGEMENT IF FELLING AND/OR YARDING ACROSS STREAMS. INCLUDE EITHER THE RESIDUAL BASAL AREA OR DENSITY FOR RMZs AND LMZs
Stream 1	S3	Y	C	A 20 m riparian management zone will be established adjacent to the reserve. This area will be partially harvested. Partial cutting in the management zone is intended to reduce potential windthrow in the reserve. The windthrow hazard was rated as moderate. Cross-stream skidding will not be permitted. Any debris landing in the creek as a result of falling hazardous snags will be bucked and removed manually. Both the management zone and reserve zone are expected to provide adequate shade to maintain water temperatures and protect stream banks. The minimum basal area proposed is 20 m ² /ha for diameter classes > 7.5 cm at breast height

Figure 16. Example of measures for riparian management.

Gullies

On the Coast, if harvesting is proposed within a gully area under the silviculture prescription, the prescription must describe measures consistent with the completed gully assessment. A gully assessment must be completed before this section of the prescription can be completed. Measures must address:

- debris management
- protecting gully banks
- minimizing damage to the understorey
- sediment and debris transport potential
- felling and yarding across gullies, if proposed.

E.2 GULLY MANAGEMENT (COAST)

MEASURES WITH RESPECT TO: DEBRIS MANAGEMENT, PROTECTING GULLY BANKS, MINIMIZING UNDERSTOREY DAMAGE, SEDIMENT AND DEBRIS TRANSPORT POTENTIAL, AND FELLING AND YARDING ACROSS GULLIES (IF APPLICABLE)

A minimum of 60% of non-merchantable trees will be left undamaged within 20 m of streams. No felling or yarding of trees across the gully will be permitted. All debris introduced into the creek will be removed concurrent with logging. Existing merchantable windthrow and other dead and down material in the riparian management zone will be bucked and yarded away. To help stabilize banks, no brush control will be permitted within 10 m of the stream bank.

Figure 17. Example of measures for gully management.

Forest health

If a pest incidence survey was conducted that identified significant forest health risks, measures to reduce those risks must be stated.

E.3 FOREST HEALTH MANAGEMENT

The high risk of hemlock dwarf mistletoe identified in the pest incidence survey necessitates a 3 m knock-down of all hemlock during harvest.

Figure 18. Example of measures for the management of forest health.

Coarse woody debris

The prescription must state the volume and range of piece sizes of coarse woody debris (CWD), if any, required to accommodate any objectives for CWD established in a forest development plan that are applicable to the area under the prescription.

E.4 COARSE WOODY DEBRIS

A minimum volume of 5 m³/ha will be retained in openings created through harvesting. This will be comprised of both logging slash and existing dead and down material ranging in size from a minimum of 15 cm in diameter at the butt (logging slash) to 60 cm in diameter at the butt for existing dead and down material.

Figure 19. Example of measures for the management of coarse woody debris.

Archaeological sites

Specify any actions necessary to adequately manage and conserve archaeological sites. Actions must be consistent with an archaeological impact assessment, if one was required.

E.5 ARCHAEOLOGICAL SITES

In accordance with the archaeological impact assessment, archaeological sites will be preserved within a reserve patch where no harvesting activities are permitted.

Figure 20. Example of measures for the management of archaeological sites.

Vegetation management

The prescription must indicate if livestock grazing is proposed as a vegetation management treatment on the area under the prescription. If there is no intention to use livestock on the prescription area, the SP can be silent on the topic.

E.6 VEGETATION MANAGEMENT STRATEGIES

LIVESTOCK TO BE USED FOR VEGETATION MANAGEMENT: YES: (✓)

Figure 21. Example of measures for vegetation management.

Soil conservation

General objective

- To ensure that harvesting and silviculture activities are conducted in a manner that protects, maintains, or enhances the long-term productivity of forest soils and minimizes the risks of landslides and sediment delivery to streams.

The silviculture prescription must describe certain soil characteristics, disturbance limits, and hazard ratings required for the protection of the soil resource. The *Soil Conservation Guidebook* provides additional information on this topic.

Silviculture prescriptions must provide the following information:

- hazard ratings for soil compaction, soil erosion, and soil displacement when the harvesting method proposed in a forest development plan is other than cable or aerial (see *Hazard Assessment Keys for Evaluating Site Sensitivity to Soil Degrading Processes Guidebook* for more information on these assessments)
- any indicators of potential slope instability, if a terrain stability field assessment has not been completed
- the depth to, and type of, unfavourable subsoil if temporary access structures are proposed
- the risk of sediment delivery to streams if temporary access structures are proposed and the area is in a community watershed.

Maximum proportion of the area in permanent access structures

The silviculture prescription must set out the maximum proportion, if any, of the total area under the prescription that may be occupied by roads, landings, gravel pits, permanent logging trails, and other permanent access structures.

Permanent logging trails include excavated or bladed skid trails and any other trails required for repeated stand entries for partial cutting silvicultural systems.

The *Soil Conservation Guidebook* provides definitions and guidance in deriving the maximum proportion of the area in permanent access structures. A sample calculation is provided below (see "Proportion of total area occupied by permanent access structures," p. 29).

Maximum soil disturbance in the net area to be reforested

The silviculture prescription must set out the maximum proportion, if any, of the net area to be reforested that may be occupied by soil disturbance.

The *Soil Conservation Guidebook* provides recommended limits for soil disturbance that relate to the sensitivity of the site to disturbance.

Temporary access structures

Temporary access structures include:

- bladed or excavated trails
- main skid trails, backspar trails, corduroyed trails, or similar structures identified in a silviculture prescription as temporary access structures
- roads, landings, pits, or quarries identified in an operational plan as temporary access structures.

These access structures are included in the net area to be reforested and must be constructed to facilitate restoration of productivity.

Where temporary access structures are proposed in a silviculture prescription, the maximum time to complete rehabilitation, measured from the time harvesting is complete, must be included.

Specify the maximum proportion, if any, that soil disturbance limits (as stated above) may be temporarily exceeded to construct temporary access structures.

Bladed or excavated trails

Bladed or excavated trails are those constructed with an excavated or bladed width greater than 1.5 m and a depth of cut into the mineral soil greater than 30 cm.

The silviculture prescription must identify:

- those portions of the cutblock where bladed or excavated trails may be constructed
- the maximum and average height of cutbanks for excavated or bladed trails
- the equipment to be used if other than an excavator.

A statement must be included in the prescription document that specifies that the construction of excavated or bladed trails complies with sections 7(4), 8(3), and 8(4) of the *Timber Harvesting Practices Regulation*.

F.1 SITE DISTURBANCE						
SU	HAZARD RATINGS <i>(if logging methods other than cable or aerial are proposed)</i>			SOIL CHARACTERISTICS <i>(if temporary access structures are proposed)</i>		
	SOIL COMPACTION	SOIL EROSION	SOIL DISPLACEMENT	DEPTH TO UNFAVOURABLE SUBSOIL (cm)	TYPE OF UNFAVOURABLE SUBSOIL	SEDIMENT DELIVERY RISK (community watershed)
A	M	L	L	N/A	N/A	L
B	M	VH	H	20-30	Compact till	H

SLOPE INSTABILITY INDICATORS:						
Minor slumping was noticed in the mid-slope region of SU B. Refer to the attached Terrain Stability Field Assessment.						

F.2 SOIL DISTURBANCE LIMITS						
MAXIMUM PROPORTION OF TOTAL AREA UNDER THE PRESCRIPTION ALLOWED FOR PERMANENT ACCESS: 5%.						
SU	MAXIMUM ALLOWABLE SOIL DISTURBANCE WITHIN THE NET AREA TO REFOREST (%)			MAXIMUM EXTENT TO WHICH SOIL DISTURBANCE LIMITS MAY BE TEMPORARILY EXCEEDED TO CONSTRUCT TEMPORARY ACCESS STRUCTURES (%)		
A	10			0		
B	5			0		

F.3 REHABILITATION TIME FOR TEMPORARY ACCESS STRUCTURES						
MAXIMUM ALLOWABLE TIME TO COMPLETE REHABILITATION (MEASURED FROM COMPLETION OF HARVEST): 1 YEAR.						

F.4 EXCAVATED AND BLADED TRAILS						
THIS PRESCRIPTION COMPLIES WITH THE PROHIBITION, UNDER SECTIONS 7(4), 8(3), AND 8(4) OF THE TIMBER HARVESTING PRACTICES REGULATION, AGAINST CONSTRUCTING BLADED OR EXCAVATED TRAILS.						
SU	MAX ALLOWABLE HEIGHT OF CUTBANKS (m)		AVERAGE HEIGHT OF CUTBANKS (m)	EQUIPMENT TO BE USED (IF OTHER THAN EXCAVATOR)		
A	N/A		N/A	None		
B	N/A		N/A	None		

Figure 22. Example of soil conservation section.

Proportion of total area occupied by permanent access structures

To calculate the proportion of permanent access structures within the area of the SP, use the definition of total area as described in the area summary of the stocking standards section of this guidebook.

Given information (example):

Total area under the prescription = 49.5 ha

Permanent roads (planned) = 1.3 ha

Permanent landings (planned) = four landings @ 0.2 ha each = 0.8 ha

Borrow pit (planned) = 0.2 ha

Area of landing (temporary) = 0.2 ha

Area of bladed skid trail (temporary) = 0.02 ha

Proportion of area occupied by permanent access structures:

$$\frac{\text{permanent roads} + \text{permanent landings} + \text{borrow pit}}{\text{total area}} \times 100\%$$

$$= \frac{1.3 \text{ ha} + 0.8 \text{ ha} + 0.2 \text{ ha}}{49.5 \text{ ha}} \times 100\%$$

$$= 4.6\%$$

Note that, in this example, an additional 0.2 ha landing and a 0.02 ha return trail are required but they are to be rehabilitated, and therefore are considered temporary access and are not included in the permanent access calculation.

Silvicultural system

General objective

- To ensure that the appropriate silvicultural system is applied to the area under the prescription.

General requirements

A silviculture prescription must describe the silvicultural system to be used.

Specific requirements

Post-harvest stand descriptions

For all silvicultural systems, the desired post-harvest stand structure and site condition must be stated in the prescription, as well as the species and function of trees to be left standing. Additional stand structure and composition goals must also be described, including either the basal area per hectare or density per hectare for:

- even-aged partial cuts (excluding patch cutting, group selection, group shelterwood, group seed tree, and clearcutting with group reserves)
- commercial thinning, harvesting of poles, sanitation treatments, and other intermediate cuttings that do not have regeneration objectives.

For commercial thinning, harvesting of poles, sanitation treatments, and other intermediate cuttings that do not have regeneration objectives, the species and function of trees to be left standing *to satisfy non-timber resource objectives* must be stated. This information may also be provided under the section for specific management strategies, in the applicable sub-section(s).

Group selection

The prescription must provide a description of the range and approximate average of opening sizes.

Single tree selection

The prescription must provide a description of the planned residual basal area per hectare.

Commercial thinnings and other intermediate cuttings

The prescription must state, where applicable, that it is prepared specifically for:

- commercial thinning
- harvesting of poles
- sanitation treatments
- any other intermediate cuttings that do not have regeneration objectives.

In such cases, the prescription does not need to describe the silvicultural system, whether livestock grazing will be used for vegetation management, the regeneration date, or the free growing assessment period.

Although there is no requirement for a regeneration date or free growing assessment period, a survey must be completed more than 12 months after the completion of harvest. Section 26 of the *Silviculture Practices Regulation* describes the requirements of the report for this survey, which include: the identification of the area under the prescription, any applicable tenure information, the NAR, the BEC, forest health information, complete inventory label(s), and the number of acceptable and preferred trees per hectare.

G.1 SILVICULTURAL SYSTEMS		
SU	SILVICULTURAL SYSTEM / VARIANT / PHASE	
A	Clearcut with reserves	
SU	COMMENTS	
A	STAND STRUCTURE AND SITE CONDITION	An unlogged reserve will be left along Stream 1 and around the rock knoll in the eastern section of the block (refer to map).
A	LEAVE TREE SPECIES AND FUNCTIONS	Reserves will contain subalpine fir, hybrid spruce, and lodgepole pine. Their function is to provide structural diversity in the future stand, mature stand attributes, larger CWD, and a source of live and dead wildlife trees.

Figure 23. Example silvicultural system – clearcut with reserves.

G.1 SILVICULTURAL SYSTEMS	
SU	SILVICULTURAL SYSTEM / VARIANT / PHASE
A	Uniform seed tree
SU	RESIDUAL STAND STRUCTURE
A	DENSITY (stems/ha)
Approximately 50 seed trees per hectare will be retained.	
SU	COMMENTS
A	STAND STRUCTURE AND SITE CONDITION
Natural stocking is preferred since, in the past, planted western larch and Douglas-fir have performed poorly in this area. There is little evidence of windfall in the area, and the block is on the lower slopes and is relatively well sheltered from both prevailing and storm winds.	
A	LEAVE TREE SPECIES AND FUNCTIONS
Douglas-fir and western larch seed trees will be permanently retained to avoid damage to regeneration and to provide future structural diversity.	

Figure 24. Example silvicultural system – uniform seed tree.

G.1 SILVICULTURAL SYSTEMS	
SU	SILVICULTURAL SYSTEM / VARIANT / PHASE
A	Group selection
SU	GROUP SELECTION OPENING SIZE CRITERIA
A	Min (ha)
	0.25
A	Max (ha)
	1.0
A	Average (ha)
	0.5
SU	COMMENTS
A	STAND STRUCTURE AND SITE CONDITION
Harvested groups will be clearcut and evenly distributed. A 40–50 m buffer will be maintained between harvested groups during the first entry to maintain security cover for wildlife and to reduce sight distance from the openings.	
A	LEAVE TREE SPECIES AND FUNCTIONS
Species of leave trees include: Fdi, Lw, Py, and At. Their function is to provide a suitable environment for Fdi, Lw, and Py regeneration to meet stand structure and condition requirements in this core ecosystem.	

Figure 25. Example silvicultural system – group selection.

G.1 SILVICULTURAL SYSTEMS	
SU	SILVICULTURAL SYSTEM / VARIANT / PHASE
A	Strip shelterwood
SU	RESIDUAL STAND STRUCTURE
A	BA (m ² /ha)
	A target basal area of 25 m ² /ha will be retained after the first entry.
SU	COMMENTS
A	STAND STRUCTURE AND SITE CONDITION
	This stand is currently dominated by age class 8 (141–250 years) Cw and Hw (with a minor component of Ac) averaging 34 m in height. In order to provide a suitable environment for Cw, Hw, and Ss regeneration, the stand will be harvested in strips with a maximum width of 40 m. Residual strips will be of equivalent width.
A	LEAVE TREE SPECIES AND FUNCTIONS
	Residual strips will include the main species components of the current stand (Cw, Hw, and Ac). Strips will be in an east–west orientation whenever possible to maximize shade production and to reduce blow-down potential from outflow winds blowing from the southeast.

Figure 26. Example silvicultural system – strip shelterwood.

G.1 SILVICULTURAL SYSTEMS	
SU	SILVICULTURAL SYSTEM / VARIANT / PHASE
	Single tree selection
SU	RESIDUAL STAND STRUCTURE
A	BA (m ² /ha)
	20
SU	COMMENTS
A	STAND STRUCTURE AND SITE CONDITION
	The existing stand has a good distribution of size classes in all four layers, making it relatively easy to obtain the desired stand structure. Subsequent harvesting entries are expected to retain similar stand structure. The stocking table below illustrates the planned distribution of stems by diameter class. The existing species composition is Hw ₄₅ Cw ₂₅ Ba ₂₀ .
A	LEAVE TREE SPECIES AND FUNCTIONS
	The desired post-harvest composition is Hw ₄₅ Cw ₂₅ Ba ₂₀ . The function of leave trees is to provide suitable conditions for regeneration, to mitigate visual concerns in this visually sensitive landscape, and to allow for another harvest entry in approximately 25 years. In addition, all Ba greater than 50 cm dbh will be retained as wildlife trees and for recruitment of large CWD.
SU	PLANNED RESIDUAL STRUCTURE
A	dbh CLASS (cm)
	7.6–15.0
A	APPROX. DENSITY (stems/ha)
	600
	210
	100
	80
	50
	30
	20
	10
	1100
	TOTAL

Figure 27. Example silvicultural system – single tree selection.

Stocking requirements

General objective

- To provide measurable standards to ensure that the desired stand conditions are met.

The silviculture prescription must specify the stocking requirements, including all applicable elements listed below, for each standards unit. Unless otherwise stated in a higher level plan, an ecologically suitable mix of species must be selected if a mix of species was present on the pre-harvest stand. The regional *Establishment to Free Growing Guidebooks* provide guidance on species selection and stocking standards.

Stocking requirements for clearcutting, patch cutting, group selection, group shelterwood, group seed tree, retention, and clearcutting with group reserves

These systems create openings in which regeneration must be established and a free growing stand produced. Stocking requirements that must be included in the silviculture prescription are discussed below.

Preferred and acceptable species

Preferred and acceptable tree species for the area must be specified. Preferred species are ecologically suited to the site, and management activities are aimed primarily at establishing these species. Acceptable species are also ecologically suited to the site, but management activities are aimed secondarily towards establishing them.

Minimum allowable horizontal distance

Specify the minimum allowable horizontal distance between trees (minimum inter-tree distance or MITD) of preferred and acceptable species for those trees to be considered well-spaced.

Target stocking standard (TSS)

Specify the number of healthy, well-spaced trees of preferred and acceptable species per hectare desired on the area.

Healthy trees are those considered to be in an acceptable condition in relation to applicable damage standards and growth characteristics. These standards and characteristics are found in the regional *Establishment to Free Growing Guidebooks*. In some cases, additional criteria are found in regional standard operating procedures.

Minimum stocking standard of preferred and acceptable species (MSSpa)

Specify the minimum number of healthy, well-spaced trees per hectare of preferred and acceptable species that must be on the area in order to consider it satisfactorily stocked.

Minimum stocking standard of preferred species (MSSp)

Specify the minimum number of healthy, well-spaced trees per hectare of preferred species that must be on the area in order to consider it satisfactorily stocked.

Regeneration date

Specify the maximum number of years allowed, from the commencement of harvesting (or from the approval of the prescription if it is for damaged or destroyed timber or trespass), to establish at least the minimum stocking. This is commonly referred to as the "regeneration delay."

Note that for backlog silviculture prescriptions, this period is measured from the commencement of treatments rather than from the approval date of the prescription. Whenever this assessment date is to be measured from a time other than the commencement of harvesting, the prescription should clearly state when the time frame commences.

Free growing assessment period

- *Early free growing:* Specify the earliest time, in years from the commencement of harvesting (or from prescription approval if it is for damaged or destroyed timber or trespass), that the area may be declared free growing.
- *Late free growing:* Specify the latest time, in years from commencement of harvesting (or from prescription approval if it is for damaged or destroyed

timber or trespass), that a free growing stand must be established on the entire net area to be reforested.

Note that for backlog silviculture prescriptions, these periods are measured from the commencement of treatments rather than from the approval date of the prescription. Whenever these assessment dates are to be measured from a time other than the commencement of harvesting, the prescription should clearly state when the time frames commence.

Maximum density

Include the maximum number of coniferous trees allowed per hectare in a free growing stand. Use the number specified in the *Silviculture Prescription Regulation* or as specified by the regional manager. This figure includes only "countable" stems unless otherwise specified by the regional manager. Countable stems are those equal to or greater than a specified minimum height, which is 20% of the median height of preferred and acceptable well-spaced trees in a survey plot, or as determined by the chief forester. For single tree selection, a countable stem is at least 1.3 m in height and less than 7.5 cm in diameter, measured at a height of 1.3 m (the sapling layer).

Post-spacing density range

Specify the maximum and minimum number of healthy, coniferous trees per hectare to be retained after spacing to meet maximum density requirements.

Minimum height

Specify the minimum height, by species, that crop trees must attain in order to be classified as free growing.

Crop tree to brush ratio

Specify the height that a free growing crop tree must attain relative to competing vegetation within a 1 m radius of the tree's trunk.

Minimum pruning height

A minimum pruning height must be stated if:

- control of white pine blister rust is necessary to achieve a healthy free growing stand by the end of the free growing assessment period
- stand densities required to achieve approved wildlife habitat management objectives, as stated in the forest development plan for the area, are at least 30% lower than the minimum stocking levels set out in the *Establishment to Free Growing Guidebook*.

The minimum pruning height must specify the height to be pruned, measured from the ground up, prior to the free growing assessment period. This height must also allow for at least 30% of the live crown to be retained.

Other survey criteria

Any additional, specific acceptability criteria or standards should be described under this section.

Where advanced regeneration or trees that vary from free growing survey criteria (as presented in the *Establishment to Free Growing Guidebook*) are expected to contribute toward stocking at the free growing assessment, the criteria for acceptability should be stated with the stocking standards.

Stocking requirements for other even-aged partial cutting systems

For uniform seed tree, uniform shelterwood, retention with dispersed leave trees, or other even-aged partial cutting silvicultural systems not covered by the section above, the silviculture prescription must include:

- all requirements outlined in the section on stocking requirements (above)
- stand structure and composition goals
- planned basal area *or* stand density to be retained after harvesting.

Stocking requirements for single tree selection

When prescribing single tree selection systems, stocking standards are required by layer, as defined in the *Operational Planning Regulation*. The four requisite layers are described as follows:

- 1) “mature layer” means the layer of trees with a stem diameter of 12.5 cm or greater, measured at a height of 1.3 m
- 2) “pole layer” means a layer of trees with a stem diameter greater than or equal to 7.5 cm, but less than 12.5 cm, measured at a height of 1.3 m
- 3) “sapling layer” means the layer of trees with a stem diameter less than 7.5 cm, measured at a height of 1.3 m
- 4) “regeneration layer” means the layer of trees shorter than 1.3 m

Note that it is possible for one or more layers to be absent, in either the existing or future stand.

The stocking requirements for single tree selection are as follows:

- preferred and acceptable species for all layers
- minimum allowable horizontal distance between trees of preferred and acceptable species for the pole, sapling, and regeneration layers
- target stocking standard for all layers
- minimum stocking standard of preferred and acceptable species for all layers
- minimum stocking standard of preferred species (only) for all layers
- regeneration date
- free growing assessment period
- maximum density of conifers for the sapling layer only
- minimum and maximum number of well-spaced trees to be retained in the sapling layer after maximum density spacing
- approximate number of trees per hectare by diameter class
- minimum free growing tree height for the regeneration layer
- height of crop tree relative to competition to be achieved (this can be a ratio or a measurement)
- planned residual basal area per hectare for the mature layer
- any survey criteria that vary from the *Establishment to Free Growing Guidebook*, *Silviculture Surveys Guidebook*, or similar information required by the district manager.

Stocking requirements for intermediate cuts

This section applies to commercial thinning, harvesting of poles, sanitation treatments, and other intermediate cuttings that do not have regeneration objectives. For these types of harvesting, the following information must be provided:

- the preferred and acceptable species of trees
- the planned residual basal area or density per hectare
- the species and function of any trees to be left standing to satisfy non-timber resource objectives.

Stocking requirements for retention systems

Retention can be either group retention, dispersed single tree retention, or a mixture of both. A group retention system has the stocking requirements as described in the *Operational Planning Regulation* section 39(1)(a), similar to the stocking requirements for clearcutting, patch cutting, and group selection. A dispersed retention system has the stocking requirements described in 39(1)(c), similar to those for seed tree.

Stocking requirements for shelterwood systems

A shelterwood silvicultural system requires stocking standards for the regeneration layer and the shelter trees. The shelter trees will typically be mature trees or may include some from the pole layer, depending on the structure of the original stand. A modified table for single tree selection stocking standards can be used to determine these stocking requirements.

Stocking requirements for advanced regeneration

Where advanced regeneration will contribute to stocking, the single tree selection table (Table H.3) may be more convenient to use than Table H.2 (stocking requirements for silvicultural systems other than single tree selection). For example, there may be 50 pole-sized trees and 100 saplings being retained per hectare. Alternatively, advanced regeneration may be described in the description of leave trees species and function.

Stocking requirements for riparian management areas

The management zone of a riparian management area may have different stocking requirements than the rest of a cutblock. In this case, the management zone will be a separate standards unit. The stocking information required will depend on the silvicultural system used, as described above.

Stocking standards for complex site units

Complex sites are those that contain distinctly different site series, but are unmappable as a single stratum (refer to the section on stratification for more details). Stocking requirements can be stated separately for each component of the complex, if appropriate. For example, it may be appropriate to have separate standards when the complex occurs on hummocky terrain with dry ridges and wet draws, provided that the boundaries of each can be identified on the ground.

H.1 ASSESSMENT DATES						
SU	REGENERATION DATE (years)	FREE GROWING ASSESSMENT PERIOD (years)				
		EARLY		LATE		
A	6		11		14	
B	6		11		14	

H.2 STOCKING REQUIREMENTS FOR SILVICULTURAL SYSTEMS OTHER THAN SINGLE TREE SELECTION						
SU	PREFERRED SPECIES & MIN HEIGHT (m)	ACCEPTABLE SPECIES & MIN HEIGHT (m)	POST-SPACING DENSITY (well-spaced stems/ha)		MAX CONIFEROUS (total stems/ha)	
			MIN	MAX		
A	Ss 2.0, Cw & Ba 1.4	Hw 2.0	400	800	10 000	
B	Ss 2.0, Cw 1.4	Ba 1.4, Hw 2.0	400	800	10 000	

SU	WELL-SPACED TREES/HA				For partial cuts, CT, pole harvesting, sanitation, and intermediate cuts, insert one of:		HEIGHT RELATIVE TO COMPETITION (% or cm)
	TARGET PREF & ACC	MIN PREF & ACC	MIN PREF	MIN HORIZ. DIST.	BA (m ³ /ha)	DENSITY (stems/ha)	
A	600	400	400	2.0	N/A	N/A	150%
B	600	400	400	2.0	N/A	N/A	150%

Figure 28. Example of stocking standards for clearcuts or patch cuts.

H.1 ASSESSMENT DATES						
SU	REGENERATION DATE (years)		FREE GROWING ASSESSMENT PERIOD (years)			
			EARLY		LATE	
1	7		12		15	
H.3 STOCKING REQUIREMENTS FOR SINGLE TREE SELECTION						
SU	LAYER	PREFERRED		ACCEPTABLE		MAX CONIFEROUS (stems/ha)
		SPECIES	MINIMUM HEIGHT (m)	SPECIES	MINIMUM HEIGHT (m)	
1	MATURE	Fdi Pl		Sx Lw		
	POLE	Fdi Pl		Sx Lw		
	SAPLING	Fdi Pl		Sx Lw		10 000
	REGEN	Fdi Pl	1.4 2.0	Sx Lw	1.0 2.0	
SU	WELL-SPACED TREES/HA					PLANNED RESIDUAL BASAL AREA (m ² /ha)
	LAYER	TARGET PREF & ACC	MINIMUM PREF & ACC	MIN PREF	MIN HORIZ DIST PREF & ACC	
1	MATURE	600	300	250		20
	POLE	800	400	300	2.0	
	SAPLING	1000	500	400	2.0	
	REGEN	1200	700	600	2.0	150%
						150%

Figure 29. Example of stocking requirements for single tree selection silvicultural systems.

Mapping requirements

General objective

- To provide an accurate visual representation of those physical features, ecological units, standards units, and other resource features referred to in, or with a bearing on, the prescription.

General mapping requirements

A silviculture prescription is required to describe the location of areas where timber will be harvested, areas where timber was damaged or destroyed, and mappable reserves, including wildlife tree patches and riparian reserve zones. A suitable map should ensure that this requirement is fulfilled.

The appropriate scale and level of detail will depend on topography, block size, and complexity of management on the area. Appropriate scale can vary from about 1:5000 to 1:20 000. Whether it is necessary to delineate very small units depends on their impact on the prescription.

The SP template does not yet include digital standards for spatial (map-based) data required as part of the SP. Future work on the SP template is expected to provide these spatial data standards, but in the meantime each statutory decision maker will determine specific map requirements at the local level.

Note: The spatial data standards used for the FDP map will be used for SP standards. A few more need to be added.

Map content

Administrative and area information

The following information is not mandatory but is suggested to simplify administration and provide references to the prescription document:

- tenure identification: licence number, cutting permit (for major licensees), block number, and BCGS mapsheet and opening number (if available)
- scale, north arrow, legend, and date.

Resource and ecological information

The total area under the prescription must be illustrated, and must correspond to the area section of the prescription. The prescription map(s) must describe or contain:

- all streams, lakes, and wetlands, and their riparian classification (if the streams are within a community watershed, indicate if they are fish streams)
- known forest ecosystem networks
- known wildlife habitat area(s) identified in the forest development plan or an amendment, in the affected area of a proposed cutblock
- sensitive areas
- known resource features, other than domestic water supply intakes
- known licensed domestic water supply intakes and related water supply infrastructure
- known community water supply intakes and related water supply infrastructure
- known temperature-sensitive streams
- approximate location of permanent access structures other than gravel pits or rock pits
- approximate location of gravel pits and rock pits, if they are proposed within 20 m of the top of a gully sidewall or the outer edge of a riparian management area
- approximate location of temporary roads and landings
- biogeoclimatic ecosystem classification (BEC)
- approximate location of a gully
 - on the Coast: if the gully is identified in a gully assessment as requiring special management
 - in the Interior: if the gully requires special management
- approximate location and type of stream crossings.



Appendix 1. Silviculture prescription template and legislative and regulatory references



SILVICULTURE PRESCRIPTION FOREST DISTRICT

A. TENURE IDENTIFICATION

LICENCE NO.:	CUTTING PERMIT:	BLOCK NO.:	LICENSEE NAME:
TIMBER MARK:	OPENING NUMBER (or mapsheet): <i>(if available)</i>	LOCATION:	

B. AREA SUMMARY

AREA OF NO PLANNED REFORESTATION (ha) (NPR)									
PERMANENT ACCESS	ROCK	WATER	SWAMP	OTHER NP	NC>4ha	RESERVES WITH NO MODIFICATIONS:	IMMATURE	OTHER (specify)	TOTAL NPR AREA
						OPR Section 39 (3) (f)			
NET AREA TO BE REFORESTED INCLUDING RESERVES WITH MODIFICATIONS (ha)									
SU	SU AREA DESCRIPTION								NET AREA TO BE REFORESTED:
	OPR Section 39 (3) (g)								
									TOTAL NET AREA TO BE REFORESTED:
									TOTAL AREA UNDER PRESCRIPTION:

C. OBJECTIVES

C.1 MANAGEMENT OBJECTIVES

MANAGEMENT OBJECTIVES STATED IN THE FDP OR HLP(s):

OPR Section 39 (3) (f)

FPC Act Section 12 (a) 1

C.2 CONDITIONS THAT MUST EXIST AFTER HARVEST OR TREATMENT TO ACCOMMODATE FOREST RESOURCES

C.2a WILDLIFE

OPR Section 39 (3)(m) ii, iii

C.2b SENSITIVE AREAS

C.2c FISHERIES

C.2d WATERSHEDS

C.2e RECREATION

C.2f BIOLOGICAL DIVERSITY

C.2g VISUALS

C.2h CULTURAL HERITAGE

C. OBJECTIVES (CONT.)

C.2I RANGE

C.2J OTHER RESOURCES

CONDITIONS NOT APPLICABLE TO THIS PRESCRIPTION

THE FOLLOWING CONDITIONS WERE CONSIDERED, AND FOUND NOT TO BE APPLICABLE TO THIS PRESCRIPTION:

D. ECOLOGICAL INFORMATION AND SITE CHARACTERISTICS

D.1 ECOLOGY AND CRITICAL SITE CONDITIONS

BIOGEOCLIMATIC							
SU	STRATUM	ZONE	SUBZONE	VARIANT	PHASE	SITE SERIES	PHASE
				OPR Section 39 (3) (a) (i)			
SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING						
				OPR Section 39 (3) (e)			

E. MANAGEMENT PRACTICES

Information in this section also pertains to FPC Act Section 17 (1-3)

E.1 RIPARIAN MANAGEMENT STRATEGIES

RIPARIAN RESERVE ZONE

RIPARIAN/ LAKE I.D.	RIPARIAN/ LAKE CLASS	HARVESTING Y/N	SU XREF	DESCRIPTION OF THE PURPOSE AND EXTENT OF REMOVAL OR MODIFICATION OF TREES AND ANY RELATED FOREST PRACTICES IN RIPARIAN RESERVE ZONE(S)
				OPR Section 39 (4) (b) i, (c) i, ii also refer to Sections 59-60 of the OPR

RIPARIAN MANAGEMENT ZONE

RIPARIAN/ LAKE I.D.	RIPARIAN/ LAKE CLASS	HARVESTING Y/N	SU XREF	MEASURES FOR RIPARIAN OR LAKESHORE MANAGEMENT AREAS INCLUDING: PROTECTING STREAM BANKS (IF THERE IS NO RRZ), MAINTAINING SHADE, AND DEBRIS MANAGEMENT. IF FELLING AND/OR YARDING ACROSS STREAMS, INCLUDE EITHER THE RESIDUAL BASAL AREA OR DENSITY FOR RMZ(S) AND LMZ(S).
				OPR Section 39 (5) (a, b) OPR Section 39 (4) (b) ii, (c) iii

E.2 GULLY MANAGEMENT (COAST)

MEASURES WITH RESPECT TO: DEBRIS MANAGEMENT, PROTECTING GULLY BANKS, MINIMIZING UNDERSTOREY DAMAGE, SEDIMENT AND DEBRIS TRANSPORT POTENTIAL, AND FELLING AND YARDING ACROSS GULLIES (IF APPLICABLE)

OPR Section 39 (6) (a, b, c)

E.3 FOREST HEALTH MANAGEMENT

MEASURES TO REDUCE FOREST HEALTH RISKS

FPC Act Section 17 (3), OPR Section 39 (3) (b)

E.4 COARSE WOODY DEBRIS

MEASURES TO ACCOMMODATE CWD OBJECTIVES, INCLUDING VOLUME AND RANGE OF PIECE SIZES, IF ANY

OPR Section 39 (3) (m) (i)

FS 39C March 15, 2000

E. MANAGEMENT PRACTICES (CONT.)**E.5 ARCHAEOLOGICAL SITES**

MEASURES TO MANAGE AND CONSERVE ARCHAEOLOGICAL SITES

OPR Section 39 (3) (m) iv

E.6 VEGETATION MANAGEMENT STRATEGIESLIVESTOCK TO BE USED FOR VEGETATION MANAGEMENT: YES:

OPR Section 39 (3) (n)

F. SOIL CONSERVATION

This section also pertains to FPC Act Sections 12 (a) v, 17 (3)

F.1 SITE DISTURBANCE

SU	HAZARD RATINGS (if logging methods other than cable or aerial are proposed)			SOIL CHARACTERISTICS (if temporary access structures are proposed)		
	SOIL COMPACTION	SOIL EROSION	SOIL DISPLACEMENT	DEPTH TO UNFAVOURABLE SUBSOIL (cm)	TYPE OF UNFAVOURABLE SUBSOIL	SEDIMENT DELIVERY RISK (community watershed)
	OPR Section 39 (3) (a) ii				OPR Section 39 (3) (a) (iv) (v)	

SLOPE INSTABILITY INDICATORS:

OPR Section 39 (3) (a) iii

F.2 SOIL DISTURBANCE LIMITS

OPR Section 39 (3) (h)

MAXIMUM PROPORTION OF TOTAL AREA UNDER THE PRESCRIPTION ALLOWED FOR PERMANENT ACCESS: ____ %.

SU	MAXIMUM ALLOWABLE SOIL DISTURBANCE WITHIN THE NET AREA TO REFOREST (%)	MAXIMUM EXTENT TO WHICH SOIL DISTURBANCE LIMITS MAY BE TEMPORARILY EXCEEDED TO CONSTRUCT TEMPORARY ACCESS STRUCTURES (%)
	OPR Section 39 (3) (i)	OPR Section 39 (3) (j)

F.3 REHABILITATION TIME FOR TEMPORARY ACCESS STRUCTURES

OPR Section 39 (3) (l)

MAXIMUM ALLOWABLE TIME TO COMPLETE REHAB (MEASURED FROM COMPLETION OF HARVEST): ____

F.4 EXCAVATED AND BLADED TRAILS

SU	MAX ALLOWABLE HEIGHT OF CUTBANKS (m)	AVERAGE HEIGHT OF CUTBANKS (m)	EQUIPMENT TO BE USED (IF OTHER THAN EXCAVATOR)
			OPR Section 39 (3) (k)

G. SILVICULTURAL SYSTEMS**G.1 SILVICULTURAL SYSTEMS**

SU	SYSTEM/VARIANT/PHASE	
	FPC Act Section 12 (a) ii, OPR Section 39 (3) (c)	

SELECTION CRITERIA

SU	GROUP SELECTION OPENING SIZE CRITERIA		
	MIN (ha)	MAX (ha)	AVERAGE (ha)
	OPR Section 39 (3) (d)		

G. SILVICULTURAL SYSTEMS (CONT.)

SU	COMMENTS							
	STAND STRUCTURE AND SITE CONDITION	FPC Act Section 12 (a) ii, OPR Section 39 (3) (c)						
SU	RESIDUAL STAND STRUCTURE (for single tree selection – delete if not applicable)							
	dbh CLASS (cm)							
	DENSITY (approx. stems/ha)							
	OPR Section 39 (1) (d) ix							

H. STOCKING REQUIREMENTS

H.1 ASSESSMENT DATES													
SU	REGENERATION DATE (years)		FREE-GROWING ASSESSMENT PERIOD (years)										
			EARLY	LATE									
	FPC Act Section 70 (1) OPR Section 39 (3) (p, q)												
H.2 STOCKING REQUIREMENTS FOR SILVICULTURAL SYSTEMS OTHER THAN SINGLE TREE SELECTION													
SU	PREFERRED SPECIES			ACCEPTABLE SPECIES		POST-SPACING DENSITY (stems/ha)		MAX CONIFEROUS (stems/ha)					
	SPECIES / MINIMUM HEIGHT (m)		SPECIES / MINIMUM HEIGHT (m)		MIN	MAX							
	WELL-SPACED TREES/HA				MINIMUM PRUNING HEIGHT (delete if not applicable)	RESIDUAL STAND STRUCTURE (BA or Density)		HEIGHT RELATIVE TO COMPETITION (% or cm)					
	TARGET PREF & ACC	MINIMUM PREF & ACC	MIN PREF	MIN HORIZ DISTANCE	BA (m ² /ha)	DENSITY (stems/ha)							
					FPC Act Section 12 (a) iii, OPR Section 39 (1) (a), (b), (c), 39 (3) (e) and 41, also note FPC Act Sections 70-71								

FS 39C March 15, 2000

H.3 STOCKING REQUIREMENTS FOR SINGLE TREE SELECTION

SU	LAYER	PREFERRED		ACCEPTABLE		MAX CONIFEROUS (stems/ha)	POST-SPACING DENSITY	
		SPECIES	MINIMUM HEIGHT (m)	SPECIES	MINIMUM HEIGHT (m)		MIN (stems/ha)	MAX (stems/ha)
	MATURE							
	POLE							
	SAPLING							
	REGEN			OPR Section 39 (l) (d) (l-viii, x) 39 (3) (o)				
	MATURE							
	POLE							
	SAPLING							
	REGEN							
SU	WELL-SPACED TREES/HA					PLANNED RESIDUAL BASAL AREA (m ² /ha) (sum of mature and pole)	HEIGHT RELATIVE TO COMPETITION (%) or (cm)	
	LAYER	TARGET PREF & ACC	MINIMUM PREF & ACC	MIN PREF	MIN HORIZ DISTANCE PREF & ACC			
	MATURE							
	POLE							
	SAPLING							
	REGEN							
	MATURE							
	POLE							
	SAPLING							
	REGEN							
SU		OTHER REQUIRED INFORMATION (as per s. 41(2) of the <i>Forest Practices Code of British Columbia Act</i>)						
		FPC Act Section 41 (2)						

FS 39C March 15, 2000

Silviculture Prescription Guidebook

I. ADMINISTRATION

PRESCRIPTION PREPARED BY (RPF SIGNATURE AND SEAL):

RPF Name (Printed)	FPC Act Section 12 (d)
Date: _____ RPF No: _____	RPF Signature and Seal
PRESCRIPTION ATTACHMENTS:	MAJOR LICENSEE SIGNING AUTHORITY: Licence Holder Signing Authority Signature (delete if not applicable) Licence Holder Signing Authority Name (Printed) (delete if not applicable) Date: _____
<p>The assessments checked off below are required for the area under this prescription pursuant to the Forest Practices Code and the regulations thereunder, including the operational planning regulation. All of these required assessments were completed to the procedures as specified in the legislation. While the assessments are not part of the prescription, the prescription is consistent with their results and recommendations. This prescription also complies with section 7(4), 8(3) and 8(4) of the Timber Harvesting Practices Regulation, with respect to the prohibition against constructing excavated or bladed trails. The procedures of the Operational Planning Regulation have been followed for any assessments required for providing BEC and soil disturbance information referred to in the OPR section 39(3)(a).</p> <p><input type="checkbox"/> OPR Section 38 (a)</p> <p><input type="checkbox"/> VISUAL IMPACT <input type="checkbox"/> RIPARIAN <input type="checkbox"/> TERRAIN STABILITY <input type="checkbox"/> GULLY <input type="checkbox"/></p> <p><input type="checkbox"/> ARCHAEOLOGICAL IMPACT <input type="checkbox"/> PEST INCIDENCE SURVEY <input type="checkbox"/></p> <p>OTHER <input type="checkbox"/> DEFINE: _____</p>	PRESCRIPTION APPROVED BY: District Manager's Signature District Manager's Name (Printed) Date: _____ Original Approval Date (if Amended): _____

FS 39C March 15, 2000

Appendix 2.

Fields in the silviculture prescription template which are entered and tracked on the Ministry of Forests information system



SILVICULTURE PRESCRIPTION FOREST DISTRICT

A. TENURE IDENTIFICATION

LICENCE NO.:	CUTTING PERMIT:	BLOCK NO.:	LICENCIEE NAME
TIMBER MARK:	OPENING NUMBER (or mapsheet): (if available)		LOCATION

B. AREA SUMMARY

AREA OF NO PLANNED REFORESTATION (ha) (NPR)									TOTAL NPR AREA
PERMANENT ACCESS	ROCK	WATER	SWAMP	OTHER NP	NC>4ha	RESERVES WITH NO MODIFICATIONS:	IMMATURE	OTHER (specify)	
NET AREA TO BE REFORESTED INCLUDING RESERVES WITH MODIFICATIONS (ha)									
SU	SU AREA DESCRIPTION								NET AREA TO BE REFORESTED:
									TOTAL NET AREA TO BE REFORESTED
									TOTAL AREA UNDER PRESCRIPTION

D. ECOLOGICAL INFORMATION AND SITE CHARACTERISTICS

D.1 ECOLOGY AND CRITICAL SITE CONDITIONS							
BIOGEOCLIMATIC							
SU	STRATUM	ZONE	SUBZONE	VARIANT	PHASE	SITE SERIES	PHASE

F. SOIL CONSERVATION

F.2 SOIL DISTURBANCE LIMITS		
MAXIMUM PROPORTION OF TOTAL AREA UNDER THE PRESCRIPTION ALLOWED FOR PERMANENT ACCESS: _____ %.		
SU	MAXIMUM ALLOWABLE SOIL DISTURBANCE WITHIN THE NET AREA TO REFOREST (%)	MAXIMUM EXTENT TO WHICH SOIL DISTURBANCE LIMITS MAY BE TEMPORARILY EXCEEDED TO CONSTRUCT TEMPORARY ACCESS STRUCTURES (%)

G. SILVICULTURAL SYSTEMS

G.1 SILVICULTURAL SYSTEMS

SU	SYSTEM/VARIANT/PHASE

H. STOCKING REQUIREMENTS

H.1 ASSESSMENT DATES

SU	REGENERATION DATE (years)	FREE-GROWING ASSESSMENT PERIOD (years)	
		EARLY	LATE

H.2 STOCKING REQUIREMENTS FOR SILVICULTURAL SYSTEMS OTHER THAN SINGLE TREE SELECTION

SU	PREFERRED SPECIES		ACCEPTABLE SPECIES		POST SPACING DENSITY (stems/ha)	MAX CONIFEROUS (stems/ha)	
	SPECIES	MINIMUM HEIGHT (in)	SPECIES	MINIMUM HEIGHT (in)			
					MIN	MAX	
SP	WELL SPACED TREES/HA			MINIMAL SPACING HEIGHT	RESIDUAL STAND STRUCTURE (BA or Density)		
	TARGET PREF & ACC	MINIMUM PREF & ACC	MIN Prefs	MIN HORIZ DISTANCE	BA (m ³ /ha)	DENSITY (stems/ha)	(% or cm)

H.3 STOCKING REQUIREMENTS FOR SINGLE TREE SELECTION

SU	LAYER	PREFERRED		ACCEPTABLE		MAX CONIFEROUS (stems/ha)	POST-SEA INFLUENCE	
		SPECIES	MINIMUM HEIGHT (m)	SPECIES	MINIMUM HEIGHT (m)		MIN HEIGHT (m)	MAX HEIGHT (m)
	MATURE							
	POLE							
	SAPLING							
	REGEN							
	MATURE							
	POLE							
	SAPLING							
	REGEN							

SU	WELL-SPACED TREES/HA				PLANNED RESIDUAL BASAL AREA (m ² /ha)	HEIGHT RELATIVE TO COMPETITION (% or cm)
	LAYER	TARGET PREF & ACC	MINIMUM PREF & ACC	MIN PREF	MIN HORIZ DISTANCE PREF & ACC	
MATURE						
POLE						
SAPLING						
REGEN						
MATURE						
POLE						
SAPLING						
REGEN						

I. ADMINISTRATION

The assessments checked off below are required for the area under this prescription pursuant to the Forest Practices Code and the regulations thereunder, including the operational planning regulation. All of these required assessments were completed to the procedures as specified in the legislation. While the assessments are not part of the prescription, the prescription is consistent with their results and recommendations. This prescription also complies with section 7(4), 8(3) and 8(4) of the Timber Harvesting Practices Regulation, with respect to the prohibition against constructing excavated or biaded trails. The procedures of the Operational Planning Regulation have been followed for any assessments required for providing BEC and soil disturbance information referred to in the OPR section 39(3)(a).

VISUAL IMPACT: RIPARIAN TERRAIN STABILITY GULLY

ARCHAEOLOGICAL IMPACT PEST INCIDENCE SURVEY

OTHER DEFINE:

PREScription APPROVED BY:

District Manager's Signature

District Manager's Name (Printed)

Date: _____

Original Approval Date (if Amended): _____